Timing of Return Office Visit Affects Adherence to Topical Treatment in Patients With Atopic Dermatitis: An Analysis of 5 Studies

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Objective electronic monitoring systems have demonstrated poor adherence to topical therapies. We compared 5 clinical trials that measured adherence to topical therapy in patients with atopic dermatitis to identify characteristics of the study designs that affect patient adherence. Mean adherence among the trials ranged from 32% to 93%, and the length of time between baseline and first return visit was inversely proportional to adherence. The timing of the first return visit may be a practical tool to modify patient adherence.

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Developing new ways to modify patient adherence could provide useful interventions for improving the outcomes in patients with atopic dermatitis. Adherence to topical medications in patients with atopic dermatitis has been measured by electronic monitoring in a number of studies.[1-5] We compared these studies in an attempt to identify characteristics of the study designs that affect patient adherence.

Methods

Clinical trials of adherence to topical treatment of atopic dermatitis were identified from a PubMed search of articles indexed for MEDLINE using the terms *atopic dermatitis* and *patient compliance*, with limits for human reports and English language. Only those studies that used electronic adherence monitors to assess adherence were included. Linear regression models examining trends in adherence and study methods were performed using SAS statistical software.

Results

At the time of this analysis, a total of 5 clinical trials were identified that electronically measured adherence to topical medications for atopic dermatitis.[1-5] In all of the studies, participants were advised to use the topical treatment twice daily but were not notified of the electronic monitoring until the end of the study (Table). The studies varied in the drug and vehicle used, the duration of the study, the time to the first return visit, and the participant demographics.

The highest mean adherence rate of 93% was reported in the study with the shortest active treatment length of 3 days,[5] and the lowest mean adherence rate of 32% was reported in the study with the longest treatment length of 8 weeks.[1] The length of time between the baseline and first return visit was inversely proportional to adherence ($P<.05$)(Figure). The total length of the study also correlated with participant adherence, with the worst adherence in longer trials ($P<.05$). One of the studies in our analysis found that participants who were younger (<13 years) correlated with poor adherence.[4]

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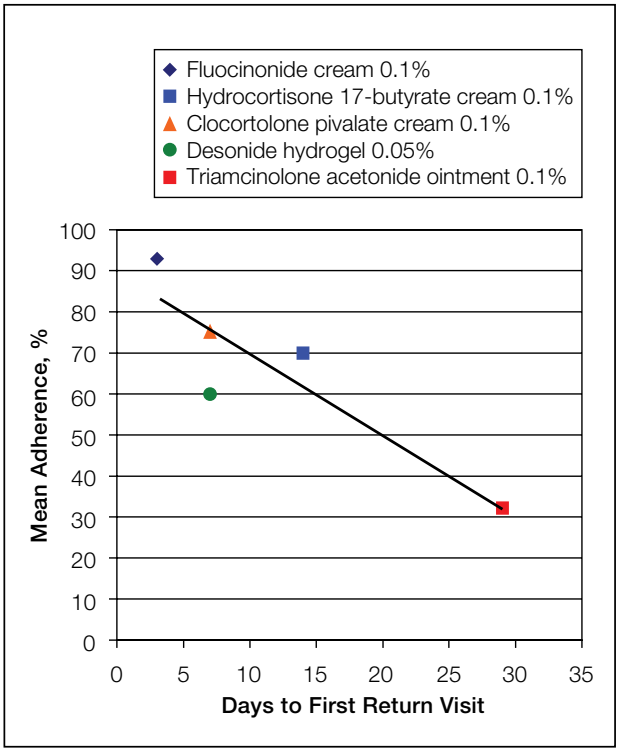
Studies Measuring Adherence to Topical Medications for Atopic Dermatitis[a]

Reference (Year)	Study Drug	Severity of Atopic Dermatitis	No. of Participants Enrolled	No. of Participants Who Completed Study	Population Age, y	Study Length	No. of Return Visits After Baseline	Mean Adherence, %	Additional Study Details
Krejci-Manwaring et al[1] (2007)	Triamcinolone acetonide ointment 0.1%	Mild to moderate	37	26	<14	8 wk	2 (weeks 4 and 8)	32	Participants were not informed of compliance monitoring until final visit
Conde et al[2] (2008)	Clocortolone pivalate cream 0.1%	Mild to moderate	10	6	<17	4 wk	3 (weeks 1, 2, and 4)	75	Investigator-blinded prospective study
Wilson et al[3] (2009)	Hydrocortisone 17-butyrate cream 0.1%	Mild to moderate	25	20	19–74	2 wk	1 (week 2)	70	Investigator-blinded prospective study; participants randomized to receive drug as cream, lipocream, or ointment
Yentzer et al[4] (2010)	Desonide hydrogel 0.05%	Mild to moderate	41	39	0.83–70	4 wk	3 (weeks 1, 2, and 4)	60	Open-label prospective study; participants aged <13 y correlated with poor adherence
Yentzer et al[5] (2010)	Fluocinonide cream 0.1%	Mild to severe	20	18	17–62	8 wk	3 (day 2 or 3, day 7, and day 14)	93	Open-label prospective study

[a]In all studies, participants were instructed to apply treatment twice daily; participants were not informed about Medication Event Monitoring Systems® until the end of the study. The high dropout rate for triamcinolone acetonide and clocortolone pivalate may bias the data toward higher adherence, as it is likely that these participants had even worse adherence.



Correlation of adherence to topical treatments for atopic dermatitis and first return visit. Participants were more likely to have better adherence with shorter time intervals between baseline and first return visit ($P<.05$).

Comment

In the treatment of atopic dermatitis, adherence to a treatment regimen is influenced by several factors. One possible reason for decreased adherence over time is that the disease improves. Considerable disease improvement was demonstrated with just 3 days of fluocinonide cream 0.1%. Other factors such as patient age, vehicle preference, or disease severity also may influence adherence. In our small study, we provided additional evidence that office visits may help drive adherence.

A limitation of our analysis was the paucity of published studies using electronic adherence monitors. Additionally, we were unable to account for the potential impact of other factors such as age, gender, and vehicle because of the small sample size of the studies. A strength of these studies was that participants were not informed that their adherence was being objectively recorded by electronic means, providing an adherence rate that was more realistic to clinic patients not involved in a study, as participants who volunteer for clinical trials may exhibit greater adherence than actual patients, and stealth monitoring through the use of Medication Event Monitoring Systems® provides a more accurate view of patient adherence.[1]

Although the sample size of the individual studies was small, the effects that study length and return visits had on adherence to treatment could still be seen. Improvement in adherence around the time of the follow-up visit is a well-known phenomenon referred to as white coat compliance.

Conclusion

We found that a follow-up office visit shortly after initiating treatment increases adherence. The timing of the first return visit may be a practical tool to modify patient adherence and help prevent treatment failures.

REFERENCES

1. Krejci-Manwaring J, Tusa MG, Carroll C, et al. Stealth monitoring of adherence to topical medication: adherence is very poor in children with atopic dermatitis [published online ahead of print November 13, 2006]. *J Am Acad Dermatol*. 2007;56:211-216.
2. Conde JF, Kaur M, Fleischer AB Jr, et al. Adherence to clocortolone pivalate cream 0.1% in a pediatric population with atopic dermatitis. *Cutis*. 2008;81:435-441.
3. Wilson R, Camacho F, Clark AR, et al. Adherence to topical hydrocortisone 17-butyrate 0.1% in different vehicles in adults with atopic dermatitis. *J Am Acad Dermatol*. 2009;60:166-168.
4. Yentzer BA, Camacho FT, Young T, et al. Good adherence and early efficacy using desonide hydrogel for atopic dermatitis: results from a program addressing patient compliance. *J Drugs Dermatol*. 2010;9:324-329.
5. Yentzer BA, Ade RA, Fountain JM, et al. Improvement in treatment adherence with a 3-day course of fluocinonide cream 0.1% for atopic dermatitis. *Cutis*. 2010;86:208-213.